AHINSA ACCOUNTING

Volume II — Cost and Management Accounting

CA Intermediate — Paper 3

Aligned to ICAI Syllabus | A Companion to Volume I (Papers 1 & 5)

Preface

Cost and Management Accounting is the internal language of the business — the discipline that tracks how Lekha resources (materials, labour, time, capacity) are consumed in the process of converting inputs into outputs. Where Volume I dealt with financial accounting — the external reporting of what the business has given and taken — Volume II deals with *how* the giving happens: at what cost, through which process, at what efficiency, and for what decision.

The Lekha-Jokha framework extends naturally into cost accounting:

> **Lekha** in cost accounting is every input deployed in production — material consumed, labour hours applied, overhead absorbed. It is the cost the business gives up to create value. **Jokha** in cost accounting is the output recovered — the cost carried in finished stock, transferred to the next process, or matched against revenue. It is the cost that is "taken back" into a product or period.

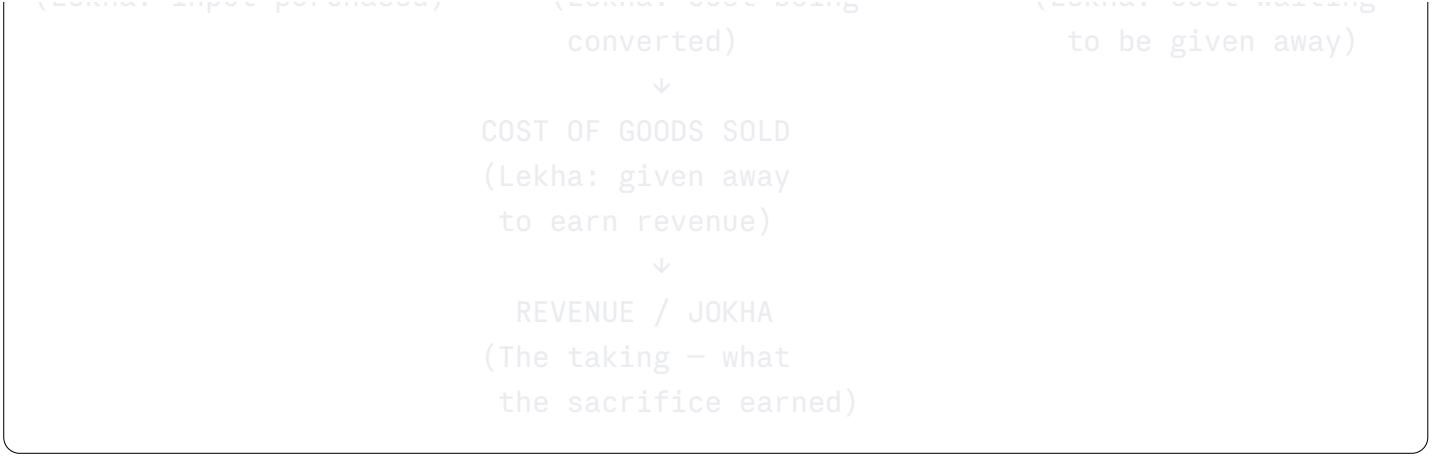
The tension between Lekha (input given) and Jokha (output recovered) generates every key concept in cost accounting: absorption vs. under-absorption, abnormal loss vs. normal loss, contribution vs. fixed cost. Understanding this tension is understanding the subject.

Standard Costing and Variance Analysis is covered in Chapter 12 as a reference chapter. The primary depth of this volume lies in:

- Process and Job Costing
- Contract Costing
- Operating and Service Costing
- Marginal Costing and CVP Analysis
- Budget and Budgetary Control

The Lekha-Jokha Cost Flow Model

Before any chapter, understand the master flow:



Every costing method is a discipline for tracking how Lekha costs move through this chain — at what rate, at what level of efficiency, and with what losses along the way.

PART I — FOUNDATIONS

Chapter 1: Introduction to Cost Accounting

1.1 Financial Accounting vs. Cost Accounting

Dimension	Financial Accounting (Vol. I)	Cost Accounting (Vol. II)
Purpose	External reporting	Internal control and decision support
Audience	Investors, creditors, regulators	Management
Time focus	Historical	Historical + predictive
Unit of analysis	Whole enterprise	Products, processes, departments
Lekha-Jokha use	Recording complete transactions	Tracking cost as it flows through production

1.2 Objectives of Cost Accounting

1. **Ascertainment of cost** — what does each unit, job, or process cost in Lekha resources?
2. **Cost control** — are actual Lekha deployments within planned limits?
3. **Cost reduction** — can the Lekha input per unit of Jokha output be permanently lowered?
4. **Pricing decisions** — what selling price (Jokha) covers Lekha cost and yields a surplus?
5. **Profit measurement** — what Lekha cost matches against each rupee of Jokha revenue?

1.3 Cost Classification

By Nature:

Cost	Lekha Type	Examples
Material	Direct Lekha input	Raw material, components
Labour	Direct Lekha input	Factory wages, piece rates
Overhead	Indirect Lekha input	Rent, power, supervision

By Behaviour:

Behaviour	Description	Lekha-Jokha Implication
Fixed	Total unchanged with volume	Lekha input per unit decreases as output (Jokha) rises
Variable	Total changes proportionately	Lekha input per unit constant
Semi-variable	Fixed + variable component	Requires segregation for CVP analysis
Stepped fixed	Fixed in blocks	Increases in steps as capacity (Jokha) expands

By Traceability:

- **Direct cost:** Directly traceable to a cost object (product, job). The Lekha input can be identified with the specific Jokha output.
- **Indirect cost:** Cannot be directly traced — must be allocated/apportioned.

By Function:

- Production / Manufacturing costs
- Administration costs
- Selling and Distribution costs
- Research and Development costs

By Relevance to Decision:

Type	Meaning
Sunk cost	Past Lekha already incurred — irrelevant to future decisions
Opportunity cost	Lekha of the best forgone alternative
Incremental cost	Additional Lekha from a specific decision
Avoidable cost	Lekha that ceases if an activity is abandoned

Avoidable cost	Lekha that ceases if an activity is abandoned
Unavoidable cost	Lekha that continues regardless of decision

1.4 Cost Object, Cost Centre, Cost Unit

Cost Object: Anything for which a separate measurement of Lekha cost is desired — a product, service, department, project.

Cost Centre: A location, person, or item of equipment for which costs are ascertained. It is the Lekha accumulation point.

- *Production Cost Centre:* Directly engaged in manufacture
- *Service Cost Centre:* Supports production (maintenance, stores, canteen)

Cost Unit: The unit of product or service in relation to which Lekha costs are ascertained.

Industry	Cost Unit
Steel	Per tonne
Cement	Per bag / per tonne
Hospital	Per patient-day
Transport	Per tonne-kilometre
Power	Per kilowatt-hour

1.5 Elements of Cost

```
Prime Cost = Direct Materials + Direct Labour + Direct Expenses

Works Cost (Factory Cost) = Prime Cost + Factory Overheads

Cost of Production = Works Cost + Opening WIP − Closing WIP

Cost of Goods Sold = Cost of Production + Opening Finished Goods − Closing
Finished Goods


Total Cost (Cost of Sales) = Cost of Goods Sold + Selling & Distribution
Overheads

Selling Price = Total Cost + Profit
```

Chapter 2: Cost Sheet — Statement of Cost

2.1 Purpose

The cost sheet is the formal statement presenting the Lekha cost structure of a product or period. It is the foundational document of cost accounting — all costing methods produce, in some form, a statement that looks like a cost sheet.

2.2 Format

```
STATEMENT OF COST
For the period / For the batch of _____ units

                                        Per Unit    Total (₹)
DIRECT MATERIALS
Opening Stock of Raw Material             X
Add: Purchases                            X
Less: Closing Stock of Raw Material      (X)
= Raw Material Consumed                   X            X

DIRECT LABOUR                             X            X

DIRECT EXPENSES                           X            X
──────────────────────────────────────────────────────────
PRIME COST                                X            X

FACTORY / WORKS OVERHEADS
Fixed Factory Overheads                   X
Variable Factory Overheads                X
                                          X            X
──────────────────────────────────────────────────────────
GROSS WORKS COST                          X            X

Add: Opening WIP                                       X
Less: Closing WIP                                     (X)
──────────────────────────────────────────────────────────
WORKS COST / FACTORY COST                 X            X

ADMINISTRATION OVERHEADS                  X            X
──────────────────────────────────────────────────────────
COST OF PRODUCTION                        X            X

Add: Opening Stock of Finished Goods                   X
Less: Closing Stock of Finished Goods                 (X)
──────────────────────────────────────────────────────────
COST OF GOODS SOLD                        X            X

SELLING AND DISTRIBUTION OVERHEADS        X            X
──────────────────────────────────────────────────────────
COST OF SALES / TOTAL COST                X            X
```

```
PROFIT / SURPLUS                          X          X
SELLING PRICE / REVENUE                   X          X
```

2.3 Worked Example

Facts: Kiran Manufacturing. Month: April 2025.

- Raw material: Opening ₹40,000, Purchases ₹2,00,000, Closing ₹30,000
- Direct Labour: ₹1,20,000
- Factory Power (variable): ₹20,000
- Factory Rent (fixed): ₹30,000
- Opening WIP: ₹15,000; Closing WIP: ₹25,000
- Administration Overheads: ₹40,000
- Opening Finished Goods: ₹35,000; Closing Finished Goods: ₹45,000
- Selling Overheads: ₹25,000
- Units produced: 1,000; Units sold: 950

```
Raw Material Consumed: 40,000 + 2,00,000 − 30,000 = 2,10,000
Direct Labour:                                       1,20,000
Prime Cost:                                          3,30,000
Factory Overheads: 20,000 + 30,000:                     50,000
Gross Works Cost:                                    3,80,000
Add Opening WIP:                                        15,000
Less Closing WIP:                                     (25,000)
Works Cost:                                          3,70,000
Administration OH:                                      40,000
Cost of Production:                                  4,10,000
Add Opening Finished Goods:                             35,000
Less Closing Finished Goods:                          (45,000)
Cost of Goods Sold:                                  4,00,000
Selling Overheads:                                      25,000

Total Cost of Sales:                                 4,25,000

Cost per unit sold = ₹4,25,000 ÷ 950 = ₹447.37
```

2.4 Reconciliation of Cost Accounts with Financial Accounts

Differences arise because:

1. Items in financial accounts not in cost accounts (e.g. dividends received, donations, penalties)
2. Items in cost accounts not in financial accounts (e.g. notional rent, imputed interest on

capital)
3. Different stock valuation bases
4. Different depreciation methods

Memorandum Reconciliation Account:

```
Profit as per Cost Accounts                          X
Add: Items of income in FA not in CA                 X
Add: Under-valuation of closing stock in CA          X
Less: Items of expense in FA not in CA              (X)
Less: Over-valuation of closing stock in CA         (X)
= Profit as per Financial Accounts                   X
```

Chapter 3: Material Cost

3.1 Material as Lekha Input

Raw material is the primary Lekha resource that flows into production. Managing material cost requires:

- Purchasing at the right price
- Holding optimal quantities (EOQ)
- Issuing at correct valuation
- Minimising waste, scrap, and theft

3.2 Inventory Control

Economic Order Quantity (EOQ):

```
EOQ = √(2 × Annual Demand × Ordering Cost ÷ Holding Cost per unit per annum)
```

Where:

- Annual Demand = Total Lekha input required per year
- Ordering Cost = Cost of placing each Lekha procurement
- Holding Cost = Cost of holding Lekha inventory per unit per year (storage, insurance, interest on capital locked up)

Reorder Level = Maximum Consumption × Maximum Lead Time Minimum Level = Reorder Level − (Normal Consumption × Normal Lead Time) Maximum Level = Reorder Level + EOQ − (Minimum Consumption × Minimum Lead Time) Average Stock Level = (Minimum Level + Maximum Level) ÷ 2 Danger Level = Average Consumption × Lead time for emergency purchases

3.3 Pricing of Material Issues

Method	Description	Effect
FIFO	Oldest material issued first	Closing stock at recent prices
LIFO	Most recent issued first (management accounts only)	Closing stock at old prices
Weighted Average	Average of all batches in store	Smoothed cost
Standard Price	Pre-determined Lekha cost	Variance captured separately
Replacement Cost	Current market price	Used for decision-making; not routine issues

3.4 Waste, Scrap, Spoilage, and Defectives

Term	Meaning	Lekha Treatment
Normal Waste	Inevitable loss in process	Absorbed into good output — cost per unit rises
Abnormal Waste	Excess over normal	Charged as a period Lekha loss (separate account)
Scrap	Residue with low recoverable value	Credited back to process account; reduces net Lekha cost
Spoilage	Damaged beyond repair	If normal → absorbed; if abnormal → period loss
Defectives	Can be reworked	Rework cost charged to job or period

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Chapter 4: Labour Cost

4.1 Labour as Lekha Input

Labour cost is the human Lekha input. It comprises:

- **Direct Labour:** Workers whose time is directly traceable to a specific cost unit
- **Indirect Labour:** Supervision, maintenance, cleaning — Lekha overhead

4.2 Time Rate vs. Piece Rate

Method	Formula	When Appropriate
Time Rate	Hours worked × Rate per hour	Quality critical; output variable

Piece Rate	Units produced × Rate per unit	Output measurable; quality consistent
Differential Piece Rate	Higher rate above standard output	Incentive to exceed standard
Halsey Premium	Basic time rate + 50% of time saved × rate	Sharing Lekha saving between worker and employer
Rowan Premium	Basic time rate + (Time saved/Time allowed) × Time taken × Rate	Moderate incentive; penalises excessive speed

Halsey vs. Rowan: If time saved > 50% of standard time → Halsey gives higher earnings. If time saved < 50% → Rowan gives higher earnings. At exactly 50% savings → both give identical results.

4.3 Labour Turnover

```
Labour Turnover Rate = (Number of Separations during period ÷ Average Number of Workers) × 100
```

High labour turnover increases Lekha costs through:

- Recruitment and selection costs
- Induction and training costs
- Loss of efficiency during learning period (learning curve)
- Lower output (Jokha recovery) until new worker reaches standard

Causes: Poor working conditions, better opportunities elsewhere, personal reasons, redundancy.

4.4 Idle Time

Normal Idle Time: Unavoidable (tea breaks, machine setup) — absorbed into Lekha overhead. **Abnormal Idle Time:** Machine breakdown, power failure, strikes — charged as separate Lekha loss.

```
Idle Time Cost = Idle Hours × Labour Rate per Hour
```

Journal treatment in cost accounts:

```
Idle Time Loss A/c (Lekha)          Dr.   Abnormal idle hours × rate
  To Wages Control A/c              Cr.
```

4.5 Overtime

Overtime Premium:

- If due to general factory pressure → Lekha overhead (absorbed by all production)
- If at customer's specific request → charged directly to that job (Lekha direct cost)
- If due to abnormal cause (machine breakdown) → Lekha period loss

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Chapter 5: Overhead Cost

5.1 Overview

Overheads are indirect Lekha costs — they cannot be directly attributed to a cost unit. They must be collected, apportioned to departments, and then absorbed into cost units via an absorption rate.

Three stages:

1. **Allocation** — assign overheads that belong entirely to one department directly.
2. **Apportionment** — share common overheads across departments on a fair basis.
3. **Absorption** — charge to cost units via a pre-determined overhead absorption rate (OAR).

5.2 Apportionment Bases

Overhead	Apportionment Basis
Rent, Rates, Heating	Floor area
Lighting	Floor area or number of light points
Depreciation on machinery	Machine value or machine hours
Canteen costs	Number of employees
Power	Horsepower of machines or machine hours
Supervision	Number of employees or labour hours
Insurance on assets	Asset values
Stores overheads	Number of requisitions or material value

5.3 Re-apportionment of Service Department Costs

Service departments (maintenance, stores, canteen) serve production departments. Their costs must be re-apportioned to production departments before absorption can happen.

Methods:

Methods:

- **Direct Method:** Service dept. costs apportioned directly to production depts. only; inter-service dept. work ignored.
- **Step Method (Continuous Allotment):** Largest service dept. apportioned first (including to other service depts.); that dept. then closed. Repeated until all service depts. are closed.
- **Simultaneous Equation Method (Reciprocal):** Where service depts. serve each other significantly. Two (or more) equations set up and solved to find total cost of each service dept. before final apportionment to production.

Simultaneous Equation — Worked Example: Maintenance (M) and Stores (S) serve each other. M's own costs: ₹80,000; provides 20% of services to S. S's own costs: ₹60,000; provides 10% of services to M.

Let M = Total cost of Maintenance; S = Total cost of Stores.

```
M = 80,000 + 0.10S
S = 60,000 + 0.20M

Substitute:
M = 80,000 + 0.10(60,000 + 0.20M)
M = 80,000 + 6,000 + 0.02M
0.98M = 86,000
M = ₹87,755

S = 60,000 + 0.20 × 87,755 = 60,000 + 17,551 = ₹77,551
```

These totals are then apportioned to production departments (excluding the reciprocal percentages already accounted for).

5.4 Overhead Absorption Rate (OAR)

```
OAR = Budgeted Overhead ÷ Budgeted Level of Activity
```

Bases for activity level:

Basis	OAR Formula	When Best
Direct Labour Hours	OH ÷ DLH	Labour-intensive production
Machine Hours	OH ÷ Machine Hours	Mechanised production
Direct Labour Cost %	OH ÷ Direct Labour Cost × 100	Simple; varies with wage rates
Prime Cost %	OH ÷ Prime Cost × 100	Used where material cost is stable
Unit of Production	OH ÷ Units	Single product; uniform output

Machine Hour Rate:

```
Machine Hour Rate = (Depreciation + Power + Repairs + Share of dept. overheads)
÷ Effective Machine Hours
```

5.5 Under-absorption and Over-absorption

```
Under-absorption = Budgeted OH > Absorbed OH (actual volume lower than budget
or actual OH higher)
Over-absorption = Absorbed OH > Actual OH incurred
```

Lekha-Jokha logic:

- The OAR is used to carry Lekha overhead into Jokha output (WIP, Finished Goods).
- If less is absorbed than actually incurred → under-absorption → Lekha overhead left in the period account. The Jokha products have taken insufficient cost.
- If more is absorbed → over-absorption → the Jokha products have taken more than the actual Lekha input.

Accounting Treatment:

- Under/Over-absorption taken to **Costing Profit and Loss Account** at year end (not carried forward).
- Exception: Abnormal causes of under-absorption (machine breakdown, strike) → charged separately to Costing P&L directly (not spread over output).

Supplementary Rate: Where under/over-absorption is significant and arises from normal causes, a supplementary OAR is calculated and applied retroactively to all production.

PART II — COSTING METHODS

Chapter 6: Job Costing and Batch Costing

6.1 Job Costing — Nature

Job costing is used where each unit or batch of production is distinct — a specific piece of work done to customer requirements. The cost unit is the **job**.

Characteristics:

- Each job has a separate Job Cost Card / Job Order
- Direct materials, direct labour, and direct expenses are charged directly to the job

- Overheads are absorbed using a pre-determined OAR
- Job may be for external customer or internal use

Industries: Engineering workshops, printing, construction (small contracts), furniture-making to order, ship-building (small vessels), advertising agencies.

6.2 Job Cost Card

```
JOB COST CARD
Job No: ____   Customer: ____   Date Started: ____   Date Completed: ____

DIRECT MATERIALS:
Date    Material Req. No.    Description    Qty    Rate    Amount
                                                        ₹_____

DIRECT LABOUR:
Date    Worker No.    Operation    Hours    Rate    Amount
                                                   ₹_____

DIRECT EXPENSES:                                   ₹_____
_____________________________________________________
PRIME COST:                                        ₹_____

OVERHEADS ABSORBED:
Factory OH: ___ hours × ₹___ per hour              ₹_____
Admin OH: ___ % on works cost                      ₹_____
_____________________________________________________
TOTAL JOB COST:                                    ₹_____

SELLING PRICE:                                     ₹_____
PROFIT / LOSS:                                     ₹_____
```

6.3 Worked Example — Job Costing

Facts: Precision Engineers received three jobs in March 2025.

	Job 101	Job 102	Job 103
Direct Materials	₹12,000	₹18,000	₹9,000
Direct Labour Hours	80	120	60
Direct Labour Rate	₹50/hr	₹50/hr	₹50/hr
Machine Hours	60	90	40

Budgeted factory overheads: ₹3,60,000. Budgeted machine hours: 3,600. OAR = ₹3,60,000 ÷ 3,600 = **₹100 per machine hour**

3,000 = **₹100 per machine hour**

Administration overhead: 20% of factory cost.
Selling price: Job 101 = ₹30,000; Job 102 = ₹45,000; Job 103 = ₹20,000.

Job Cost Calculation:

	Job 101	Job 102	Job 103
Direct Materials	12,000	18,000	9,000
Direct Labour	4,000	6,000	3,000
Prime Cost	16,000	24,000	12,000
Factory OH (× ₹100)	6,000	9,000	4,000
Works Cost	22,000	33,000	16,000
Admin OH (20%)	4,400	6,600	3,200
Total Cost	26,400	39,600	19,200
Selling Price	30,000	45,000	20,000
Profit / (Loss)	**3,600**	**5,400**	**(800)**

Job 103 makes a loss. Management decision: reprice or review material specification.

6.4 Batch Costing

Batch costing is a form of job costing where the **cost unit is a batch** of identical items rather than a single item. Common in pharmaceutical manufacturing, footwear, electronics assembly.

```
Cost per unit = Total Batch Cost ÷ Number of Good Units in Batch
```

Setting Batch Size — Economic Batch Quantity (EBQ):

```
EBQ = √(2 × Annual Demand × Setup Cost ÷ Holding Cost per unit per annum × (1 − Demand Rate / Production Rate))
```

The EBQ accounts for the fact that production and demand occur simultaneously — unlike EOQ where the entire order arrives at once.

6.5 Treatment of Spoilage in Job Costing

Normal Spoilage: Inherent in the process. Cost absorbed by good units — cost per good unit rises. Not separately reported.

Abnormal Spoilage: Charged to a separate Abnormal Loss Account (Lekha loss). Not loaded

Abnormal Spoilage: Charged to a separate Abnormal Loss Account (Lekha loss). Not loaded onto good jobs. Transferred to Costing P&L.

Spoilage attributable to a specific job: Charged entirely to that job.

Chapter 7: Contract Costing

7.1 Nature of Contract Costing

Contract costing applies to large, long-duration construction projects undertaken for specific customers. A contract (civil engineering, large plant installation, road construction, housing projects) may span multiple financial years.

Key characteristics:

- Site-based work; the Lekha cost accumulates on-site
- Large proportion of direct costs (materials, labour, plant)
- The question of *when to recognise profit* (Jokha) is the central accounting challenge
- Governed by **AS 7 (Construction Contracts)**

7.2 Contract Account — Structure

The Contract Account is a Lekha account opened for each contract. The Dr. side records all costs deployed; the Cr. side records transfers to P&L, notional profit, and the value of work certified.

```
CONTRACT ACCOUNT — Contract No. ___

Dr. (Lekha Inputs)                          Cr. (Lekha/Jokha Outputs)
──────────────────────────────────────────────────────────────────
Opening WIP (b/f)              X    Work Certified (Jokha recognised)  X
Materials issued               X    Materials returned to stores       X
Materials purchased for site   X    Plant transferred off site         X
Labour                         X    Scrap / material sold              X
Sub-contractor charges         X    Closing WIP (c/f)                  X
Plant deployed to site         X    Profit transferred to P&L          X
Depreciation on site plant     X
Direct expenses                X
Overheads charged              X
Notional profit (balancing)    X
──────────────────────────────────────────────────────────────────
```

7.3 Key Concepts

Contract Price: The agreed Jokha revenue when the contract is complete.

Work Certified: The value of work inspected and certified by the architect/engineer as satisfactorily completed to date. The Jokha revenue recognised is based on this.

satisfactorily completed to date. The Jokha revenue recognised is based on this.

Work Uncertified: Work done but not yet certified. Carried as Lekha WIP (cost only — no profit recognised).

Retention Money: A percentage of Work Certified that the client holds back until contract completion. It is a Lekha receivable (deferred).

Progress Payments Received: Cash received from client against certified work. Reduces the debtor/receivable balance.

7.4 Profit Recognition

AS 7 requires Percentage of Completion Method:

```
Stage of Completion = Costs Incurred to Date ÷ Estimated Total Contract Costs
Revenue for period = Contract Price × Stage of Completion − Revenue recognised
in prior periods
Profit for period = Revenue for period − Costs for period
```

Alternatively (where cost data unavailable):

```
Stage of Completion = Work Certified to Date ÷ Contract Price
```

When outcome cannot be estimated reliably: Recognise revenue only equal to costs incurred and recoverable (zero profit — cost recovery method).

Foreseeable Loss: When total estimated costs exceed contract price, the **entire foreseeable loss** is recognised immediately as a Lekha expense, regardless of stage of completion.

```
Foreseeable Loss = (Total Estimated Cost − Contract Price)
Provision for Loss A/c (Lekha)    Dr.
  To Provision for Foreseeable Loss A/c (Jokha)  Cr.
```

7.5 Prudent Profit Recognition (ICAI Guidance — Traditional approach still tested)

While AS 7 mandates percentage of completion, the following ICAI traditional guidance is frequently tested in CA Intermediate problems alongside AS 7:

Stage of Completion	Profit to Recognise
< 25% complete	No profit — carry all as WIP
25% to 50%	1/3 of notional profit × cash ratio
50% to 90%	2/3 of notional profit × cash ratio
> 90%	Full estimated profit less contingency reserve

```
Cash Ratio = (Progress Payments Received) ÷ (Work Certified)

Notional Profit = Work Certified − (Costs to date of certified work)
```

Note: This is the traditional industry-practice approach. Where AS 7 is specified in the question, use percentage of completion.

7.6 Comprehensive Worked Example

Facts: Riverside Construction Co. has a contract for a bridge at ₹80,00,000.

As at 31 March 2025:

- Material issued to site: ₹18,00,000
- Labour paid: ₹12,00,000
- Plant sent to site (cost ₹8,00,000, depreciation to date ₹2,00,000)
- Overheads charged: ₹4,00,000
- Material returned to stores: ₹1,00,000
- Scrap sold: ₹50,000
- Work certified by architect: ₹50,00,000
- Progress payments received: ₹40,00,000
- Estimated further cost to complete: ₹24,00,000
- Material on site (uncertified WIP): ₹2,50,000

Step 1 — Costs incurred to date (charged to contract):

```
Material consumed: 18,00,000 − 1,00,000 − 50,000 = 16,50,000
Labour:                                            12,00,000
Plant (net book value deployed): 8,00,000 − 2,00,000 = 6,00,000
Overheads:                                          4,00,000
Total costs to date:                               38,50,000
```

Step 2 — Stage of Completion (AS 7):

```
Estimated Total Cost = 38,50,000 + 24,00,000 = 62,50,000
Stage = 38,50,000 ÷ 62,50,000 = 61.6%
```

Step 3 — Revenue and Profit:

```
Revenue to date = 80,00,000 × 61.6% = 49,28,000
Costs to date = 38,50,000
Profit to date = 10,78,000
```

Work Certified (₹50 lakh) is close to revenue recognised (₹49.28 lakh) — the small difference reflects the completion-based approach vs. certification-based

reflects the completion-based approach vs. certification-based.

Step 4 — No foreseeable loss:

```
Total Estimated Cost = ₹62,50,000 < Contract Price ₹80,00,000 ✓
```

Step 5 — Balance Sheet items:

```
Amount due from customer (Gross Amount):
= Costs + Recognised Profit − Progress Billings
= 38,50,000 + 10,78,000 − 50,00,000
= (₹72,000) → NET AMOUNT DUE TO CUSTOMER (Jokha liability)
```

(Progress billings exceed recognised revenue + costs — customer has overpaid relative to work done under AS 7 recognition.)

Step 6 — Contract Account:

```
DR                                    CR
Materials issued      18,00,000   Materials returned    1,00,000
Labour                12,00,000   Scrap sold              50,000
Plant (NBV)            6,00,000   Work Certified       50,00,000
Overheads              4,00,000   Closing WIP
                                    (uncertified mat.)    2,50,000
P&L (Profit − AS7)    10,78,000   Plant c/f             (6,00,000)
Notional bal.          3,22,000
──────────────────────────────────────────────────────────────────
```

(Full contract account reconciliation would also show the plant carried forward and the WIP balance.)

7.7 Practice Questions

Q1. Horizon Ltd. has a ₹1,20,00,000 contract. Costs incurred: ₹48,00,000. Estimated further costs: ₹32,00,000. Work certified: ₹60,00,000. Progress payments: ₹50,00,000. Compute: (a) Stage of completion, (b) Revenue, profit, and cost to be recognised in P&L for the year, (c) Amount due from/to customer for Balance Sheet.

Q2. A contract has a price of ₹2,00,00,000. Costs to date ₹1,60,00,000. Estimated further cost ₹80,00,000. (a) Is there a foreseeable loss? (b) Compute the provision required and write the journal entry. (c) What revenue is recognised?

Q3. Contrast AS 7 profit recognition with the traditional ICAI prudent profit method for a contract that is 60% complete with cash ratio of 0.8.

Chapter 8: Process Costing

8.1 Nature

Process costing is used where production is continuous, homogeneous, and passes through a series of distinct operations (processes). The cost unit is the output of each process.

Industries: Chemicals, oil refining, paint manufacturing, paper, textiles, food processing, cement, sugar.

Key features:

- Output of one process is input to the next
- Costs are averaged over all units in the process
- Losses (normal and abnormal) are an inherent concern
- Joint products and by-products may emerge

8.2 Process Account Structure

```
PROCESS ACCOUNT — Process I

Dr. (Lekha Inputs)                          Cr. (Lekha/Jokha Outputs)
──────────────────────────────────────────────────────────────────────
Units   ₹                                   Units   ₹
Input (materials)        X    X    Normal Loss / Waste  X    X
Labour                        X    Abnormal Loss        X    X
Overheads                     X    Transfer to Process II X  X
Abnormal Gain            X    X
──────────────────────────────────────────────────────────────────────
```

8.3 Normal Loss

Normal loss is the expected, unavoidable loss inherent in the process (evaporation, trimming waste, chemical reactions). Its cost is **absorbed by the good output** — it is not separately costed.

If normal loss has scrap value: The scrap proceeds from normal loss units reduce the net process cost before computing cost per unit.

```
Cost per unit = (Total Process Cost − Scrap Value of Normal Loss) ÷ Expected
Output

Expected Output = Total Input − Normal Loss units
```

Process Account with Normal Loss:

```
                Units  ₹                      Units  ₹
Input           1,000  50,000  Normal Loss     100   1,000 (@ ₹10/unit scrap)
Labour                 20,000  Transfer       900   69,000
Overheads              0,000
```

```
                1,000  70,000                1,000  70,000

Cost per unit = (70,000 − 1,000) ÷ 900 = ₹76.67
```

8.4 Abnormal Loss

Abnormal loss occurs when actual output is *less* than expected output (after accounting for normal loss). It is an **unexpected Lekha loss** — valued at the same cost per unit as good output, and charged to a separate **Abnormal Loss Account** (transferred to Costing P&L).

```
Abnormal Loss Units = Expected Output − Actual Output

Value of Abnormal Loss = Abnormal Loss Units × Cost per unit
```

If abnormal loss units have scrap value, the scrap proceeds reduce the debit to Costing P&L.

```
Abnormal Loss Account:
Dr. Process Account (Lekha — cost of lost units)
Cr. Scrap Account (scrap value of abnormal units) [partial recovery]
Cr. Costing P&L (net loss) [remaining Lekha loss]
```

8.5 Abnormal Gain

Abnormal gain occurs when actual output *exceeds* expected output. It is a Lekha saving — fewer units are lost than expected.

```
Abnormal Gain Units = Actual Output − Expected Output

Value of Abnormal Gain = Abnormal Gain Units × Cost per unit
```

Important: Abnormal gain reduces the normal loss units expected. The scrap value of the normal loss units that did NOT materialise must be removed from the Process Account.

```
Process Account:
Dr. Abnormal Gain Account (at cost per unit)
Cr. Process Account

Normal Loss Account — reduction:
Dr. Normal Loss Account (scrap value of gain units)
Cr. Abnormal Gain Account (reduce the gain's gross value)

Net to Costing P&L:
Abnormal Gain Account credit balance = Net benefit
```

8.6 Comprehensive Process Costing Example

Facts. Three-process production. Process I data for April 2025:

Facts: Three-process production. Process I data for April 2025:

- Input: 2,000 kg; Cost of input: ₹40,000
- Labour: ₹20,000; Overheads: ₹16,000
- Normal Loss: 10% of input; Scrap value of normal loss: ₹5/kg
- Actual Output transferred to Process II: 1,740 kg
- Remaining units were scrap

Expected Output: 2,000 − (10% × 2,000) = 1,800 kg **Abnormal Loss Units:** 1,800 − 1,740 = 60 kg

Cost per unit:

```
Total Input Cost = 40,000 + 20,000 + 16,000 = 76,000
Less: Scrap value of Normal Loss (200 units × ₹5) = 1,000
Net Cost = 75,000
Expected Output = 1,800 kg
Cost per kg = 75,000 ÷ 1,800 = ₹41.67
```

Process Account:

```
Dr.                              Cr.
Input (2000kg)  40,000  Normal Loss (200kg) 1,000 (scrap @ ₹5)
Labour          20,000  Abnormal Loss (60kg) 2,500 (60 × ₹41.67)
Overheads       16,000  Process II (1740kg) 72,500 (1740 × ₹41.67)
                76,000                      76,000
```

Abnormal Loss Account:

```
Dr. Process I  2,500
Cr. Scrap A/c (60 × ₹5) = 300
Cr. Costing P&L (net loss) = 2,200
```

8.7 WIP in Process Costing — Equivalent Units

When a process has **opening or closing work-in-progress**, the cost cannot simply be divided by total units — different elements (material, labour, overheads) may be at different stages of completion.

Equivalent Units (EU): The number of fully completed units that represent the same amount of work as the actual incomplete units.

```
EU for an element = Actual WIP units × % completion for that element
```

Two methods for valuing opening WIP:

FIFO Method:

- Opening WIP is completed first
- Cost to complete opening WIP (the current period's additional Lekha) is computed separately
- New units started and completed this period are costed at current period cost per EU

Weighted Average Method:

- Opening WIP costs are pooled with current period costs
- A single average cost per EU is computed
- Simpler; does not distinguish between periods

8.8 FIFO Method — Worked Example

Facts: Process B. Opening WIP: 400 units, 60% complete for labour & overheads, 100% complete for materials. Costs in opening WIP: Materials ₹8,000, Labour ₹3,600, OH ₹2,400 = Total ₹14,000.

Input this period: 2,000 units. Closing WIP: 500 units (100% materials, 40% labour/OH). Transferred out: 1,900 units.
Costs this period: Materials ₹40,000, Labour ₹29,100, OH ₹19,400.

Step 1 — Equivalent Units (FIFO):

	To Complete Opening WIP	Started & Completed	Closing WIP	Total EU
Materials	400 × 0% = 0	1,500	500 × 100% = 500	2,000
Labour	400 × 40% = 160	1,500	500 × 40% = 200	1,860
Overheads	400 × 40% = 160	1,500	500 × 40% = 200	1,860

(Started & Completed = Transferred out − Opening WIP = 1,900 − 400 = 1,500)

Step 2 — Cost per EU:

```
Materials: 40,000 ÷ 2,000 = ₹20 per EU
Labour:    29,100 ÷ 1,860 = ₹15.65 per EU
Overheads: 19,400 ÷ 1,860 = ₹10.43 per EU
Total cost per EU = ₹46.08
```

Step 3 — Cost Assignment: Opening WIP cost to complete:

```
Materials: 0 × ₹20          = 0
Labour: 160 × ₹15.65        = 2,504
Overheads: 160 × ₹10.43     = 1,669
Cost to complete opening WIP = 4,173
```

```
Total cost of completed opening WIP = 14,000 + 4,173 = ₹18,173
```

Started and Completed:

```
1,500 × ₹46.08 = ₹69,120
```

Closing WIP:

```
Materials: 500 × ₹20          = 10,000
Labour: 200 × ₹15.65          = 3,130
Overheads: 200 × ₹10.43       = 2,086
Closing WIP value              = ₹15,216
```

Verification: Total costs = 14,000 (opening) + 40,000 + 29,100 + 19,400 = 1,02,500 Accounted: 18,173 + 69,120 + 15,216 = ₹1,02,509 (rounding difference of ₹9 — acceptable)

8.9 Joint Products and By-Products

Joint Products: Two or more products of **significant commercial value** that emerge simultaneously from a single process up to the **split-off point**.

By-Products: Products of **minor commercial value** that emerge incidentally alongside the main product.

Split-off Point: The point in the process where joint products become separately identifiable.

The Apportionment Problem: Joint processing costs (up to split-off) cannot be directly traced to individual joint products — they must be apportioned.

Methods of Apportioning Joint Costs:

Method	Basis	When Appropriate
Physical Unit Method	Weight or volume at split-off	Products are similar in nature
Sales Value at Split-off	Market value at point of separation	Products have established split-off prices
Net Realisable Value (NRV) Method	Final selling price − further processing costs	Products require different further processing
Contribution Margin Method	Contribution per unit after split-off costs	Management decision-making

NRV Method — Worked Example:

Joint costs (up to split-off): ₹1,20,000
Three products emerge at split-off:

Product	Units	Selling Price	Further Costs	Final Revenue
A	500	₹150	₹20/unit	500 × ₹150 = ₹75,000
B	300	₹200	₹30/unit	300 × ₹200 = ₹60,000
C	400	₹100	₹10/unit	400 × ₹100 = ₹40,000

```
NRV:
A: 75,000 − (500 × 20) = 75,000 − 10,000 = 65,000
B: 60,000 − (300 × 30) = 60,000 − 9,000 = 51,000
C: 40,000 − (400 × 10) = 40,000 − 4,000 = 36,000
Total NRV = 1,52,000

Joint cost apportionment:
A: (65,000/1,52,000) × 1,20,000 = ₹51,316
B: (51,000/1,52,000) × 1,20,000 = ₹40,263
C: (36,000/1,52,000) × 1,20,000 = ₹28,421
```

By-Product Accounting: Three treatments are acceptable:

1. Deduct sale proceeds of by-product from joint process cost (most common)
2. Treat as separate revenue (Jokha income)
3. Assign notional cost equal to NRV; reduce joint product costs accordingly

8.10 Further Processing Decision

Principle: Joint costs are irrelevant (sunk) to the further processing decision. The only relevant Lekha-Jokha comparison is:

```
Process further if: Incremental Revenue (Jokha) > Incremental Cost (Lekha)
i.e., NRV after further processing > Market value at split-off
```

Do not compare NRV after further processing with (apportioned joint cost + further processing cost) — this confuses sunk costs with relevant costs.

8.11 Practice Questions

Q1. A chemical process produces Product X and Product Y jointly at a cost of ₹2,40,000. Output: X = 800 kg, Y = 1,200 kg. X sells at ₹200/kg; Y at ₹150/kg. Apportion joint costs using (a) Physical units and (b) Sales value at split-off. Calculate profit from each product.

Q2. Process I input: 5,000 units @ ₹20. Labour ₹30,000. OH ₹20,000. Normal loss 8% (scrap value ₹5). Actual output: 4,200 units. Prepare the Process Account and Abnormal Loss Account.

Q3. Opening WIP 300 units (70% complete; labour/OH 100% material). Opening WIP

Q3. Opening WIP 300 units (70% complete — labour/OH; 100% materials). Opening WIP cost: ₹15,000. Current period: Input 2,500 units; costs: Materials ₹50,000, Labour ₹38,400, OH ₹25,600. Closing WIP: 600 units (50% complete). Normal loss: 5% of input. Actual output transferred: 2,050 units. Prepare Process Account using Weighted Average method.

Chapter 9: Operating and Service Costing

9.1 Nature

Operating (Service) Costing is used for service-providing organisations and service departments within manufacturing entities. The service has no physical Lekha asset that is "transferred" — the Lekha cost is incurred in delivering a service, and the Jokha recovery is the charge to users.

Industries and cost units:

Industry / Service	Cost Unit
Road transport	Per tonne-km or per passenger-km
Hotel	Per room-day or per bed-night occupied
Hospital	Per patient-day or per bed-day occupied
Power generation	Per kilowatt-hour (kWh)
Canteen	Per meal served
Boiler / Steam	Per kilogram of steam raised
Laundry	Per kg of clothes washed
School / College	Per student per year

9.2 Composite Cost Unit

Where service involves two dimensions (quantity and distance, or quantity and time), a composite cost unit is used:

```
Passenger-km = Number of passengers × Distance travelled (km)
Tonne-km = Tonnes carried × Distance travelled (km)
```

9.3 Transport Costing — In Depth

Cost Categories for a Transport Undertaking:

Fixed (Standing) Charges — Lekha regardless of trips:

- Vehicle licence fees

- Vehicle licence fees
- Insurance
- Garage rent
- Driver's salary (if fixed)
- Depreciation of vehicle
- Interest on capital

Variable (Running) Charges — Lekha per km operated:

- Fuel (petrol/diesel)
- Lubricants
- Tyres and tubes (allocated per km)
- Repairs and maintenance (variable component)
- Driver's wages (if piece-rate per trip)

Maintenance Charges — semi-variable:

- Periodic servicing, overhaul

Cost Sheet for a Vehicle:

```
TRANSPORT COST STATEMENT
Vehicle No: ___ Period: ___ Total km run: ___

STANDING CHARGES (per period):
Depreciation                          X
Insurance                             X
Road tax / licence                    X
Driver's salary                       X
Garage rent (allocated)               X
                          Total:      X

RUNNING CHARGES (per km):
Fuel: ___ litres × ₹___ per litre     X
Lubricants                            X
Tyres (total tyre cost ÷ tyre life)   X
Variable repairs                      X
                          Total:      X

MAINTENANCE CHARGES:                  X
──────────────────────────────────────
TOTAL COST:                           X

Effective km run (after deducting deadhead km):  ___ km

Cost per km = Total Cost ÷ Effective km
Cost per tonne-km = Total Cost ÷ Total tonne-km
```

Effective km vs. Actual km: Deadhead km (empty running) — no revenue Jokha is generated. Cost is incurred but no chargeable output.

```
Effective km = Actual km − Deadhead km
```

Some analysts compute cost per **actual km** (to assess total operating cost) and cost per **effective km** (to assess revenue-earning efficiency).

9.4 Worked Example — Road Transport

Facts: Suryalight Transport Co. operates one truck. Data for April 2025:

- Trips: 20 trips of 200 km each (one way). Return trip empty (deadhead).
- Load per trip: 5 tonnes
- Fuel: 10 km per litre; diesel at ₹90/litre
- Driver salary (fixed): ₹18,000 per month
- Vehicle insurance: ₹24,000 p.a.
- Road tax: ₹6,000 p.a.
- Depreciation: ₹1,20,000 p.a.
- Tyre cost: ₹60,000 per 60,000 km
- Repairs (variable): ₹1.50 per km
- Garage rent: ₹3,000 per month

Step 1 — km calculation: Total km = 20 trips × (200 km × 2 — return trip) = 20 × 400 = 8,000 km total Effective km (laden) = 20 × 200 = 4,000 km Deadhead km = 4,000 km

Step 2 — Tonne-km: = 20 trips × 5 tonnes × 200 km = 20,000 tonne-km

Step 3 — Cost calculation:

```
Standing Charges (monthly):
Driver salary:          18,000
Insurance: 24,000/12:    2,000
Road tax: 6,000/12:        500
Depreciation: 1,20,000/12: 10,000
Garage rent:             3,000
Total Standing:          33,500

Running Charges (8,000 km total):
Fuel: 8,000/10 × 90:    72,000

Tyres: (60,000/60,000) × 8,000: 8,000
Repairs: 1.50 × 8,000:  12,000
Total Running:           92,000

Total Cost:             1,25,500
```

```
Cost per km (total km): 1,25,500 ÷ 8,000 = ₹15.69
Cost per effective km:  1,25,500 ÷ 4,000 = ₹31.38
Cost per tonne-km:      1,25,500 ÷ 20,000 = ₹6.28
```

9.5 Hotel Costing

Key metrics:

```
Room Occupancy Rate = (Rooms Occupied ÷ Rooms Available) × 100
Bed Occupancy Rate = (Beds Occupied ÷ Beds Available) × 100
Average Room Rate = Total Room Revenue ÷ Rooms Occupied
Cost per Room-Day = Total Cost ÷ (Rooms Available × Days in Period)
```

Cost Classification for Hotels:

- **Fixed:** Building depreciation, staff salaries (permanent), property taxes, insurance
- **Variable:** Laundry, food costs (if included), housekeeping supplies, utilities (partially)
- **Semi-variable:** Maintenance, electricity

Uniform System of Accounts for Hotels (USAH): Industry-standard departmental cost reporting. Each department (Rooms, Food & Beverage, Laundry, Telephone) operates as a separate Lekha cost centre; revenue is a separate Jokha stream.

9.6 Hospital Costing

Cost Units:

- Per bed-day (total occupied beds × days)
- Per patient treated
- Per OPD visit
- Per operation

Cost Categories:

- Direct patient care: Medicines, diagnostic costs, nursing — directly traceable Lekha
- Indirect: Administration, housekeeping, laundry — Lekha overheads allocated to departments

Key Ratio:

```
Cost per Patient-Day = Total Hospital Cost ÷ (Average Beds Occupied × 365)
Bed Occupancy % = (Average Beds Occupied ÷ Total Beds Available) × 100
```

9.7 Power House / Boiler House Costing

Used when a factory generates its own steam/power. The Lekha cost of running the boiler or power plant is ascertained per unit of output, then recharged to user departments as an

power plant is ascertained per unit of output, then recharged to user departments as an internal Lekha allocation.

```
Cost per kWh = (Fixed costs + Variable costs) ÷ Units of power generated
Cost per kg of steam = Total boiler house costs ÷ kg of steam raised
```

Normal vs. Abnormal costs in service departments:

- Normal running costs → charged to user departments
- Abnormal idle time, breakdowns → charged to Costing P&L directly (not loaded onto users)

9.8 Practice Questions

Q1. A bus company runs 5 buses on a 50 km route. Each bus makes 4 round trips per day. Capacity 50 passengers; average load 60%. Days operated: 25. Monthly costs: Driver salaries ₹50,000; Fuel ₹1,20,000; Depreciation ₹30,000; Repairs ₹15,000; Insurance ₹5,000; Supervision ₹20,000. Calculate: (a) Total km run, (b) Total passenger-km, (c) Cost per km, (d) Cost per passenger-km.

Q2. A hospital has 200 beds; average occupancy 75%. Monthly operating costs: Salaries ₹8,00,000; Medicines and consumables ₹3,00,000; Laundry ₹60,000; Housekeeping ₹40,000; Depreciation ₹1,20,000; Administration ₹80,000. Calculate: (a) Bed-days available, (b) Bed-days occupied, (c) Cost per patient-day.

Q3. A boiler house generates steam. Fixed costs: ₹1,50,000 per month. Variable cost: ₹20 per 1,000 kg steam. Normal output: 50,00,000 kg per month. Actual output: 45,00,000 kg. Calculate: (a) Normal cost per 1,000 kg, (b) Total actual cost, (c) Amount of under-recovery of fixed cost.

PART III — COST ACCOUNTING TECHNIQUES

Chapter 10: Marginal Costing and CVP Analysis

10.1 Marginal Cost and Contribution

Marginal Cost is the additional Lekha cost incurred by producing one more unit. Under the marginal costing approach, only **variable costs** are treated as Lekha product costs. Fixed costs are treated as **period costs** — charged entirely to the period's P&L regardless of output volume.

```
Marginal Cost = Direct Materials + Direct Labour + Variable Overheads (per
unit)

Contribution = Selling Price − Marginal Cost (per unit)
```

```
= Jokha revenue per unit − Variable Lekha per unit
```

Contribution is the fund available to cover fixed Lekha costs and generate surplus (Jokha profit).

```
Profit = Total Contribution − Fixed Costs
       = (Contribution per unit × Units sold) − Fixed Costs
```

10.2 Marginal Costing vs. Absorption Costing

Aspect	Marginal Costing	Absorption Costing
Fixed production OH	Period cost — expensed in full	Product cost — absorbed into each unit
Stock valuation	Variable cost only	Full cost (variable + fixed OH)
Profit differences	When stock changes, profits differ	Fixed OH in stock causes timing difference
Use	Decision-making; CVP	Financial reporting; AS 2

Profit Reconciliation:

```
If production > sales (stock increases):
  Absorption profit > Marginal profit
  Difference = Increase in stock × Fixed OH per unit

If production < sales (stock decreases):
  Marginal profit > Absorption profit
  Difference = Decrease in stock × Fixed OH per unit

If production = sales:
  Profits identical
```

10.3 Cost-Volume-Profit (CVP) Analysis

CVP analysis examines the relationship between Lekha costs, Jokha revenue, and volume (output/sales) to determine break-even, margin of safety, and target profit volumes.

Assumptions:

- All costs are either fixed or variable (no semi-variable, or these are separated)
- Selling price is constant regardless of volume
- Fixed costs remain constant within the relevant range
- Variable cost per unit is constant
- Product mix (for multi-product firms) is constant

- Product mix (for multi-product firms) is constant

10.4 Break-Even Point (BEP)

BEP is the level of output/sales at which total Jokha revenue exactly equals total Lekha costs. Contribution = Fixed Costs. Profit = Zero.

```
BEP (Units) = Fixed Costs ÷ Contribution per unit

BEP (Sales ₹) = Fixed Costs ÷ P/V Ratio

P/V Ratio (Profit-Volume Ratio) = Contribution ÷ Sales = (S − V) ÷ S

Or in terms of Lekha-Jokha:
P/V Ratio = (Jokha Revenue − Variable Lekha) ÷ Jokha Revenue
```

10.5 Margin of Safety (MOS)

```
MOS (Units) = Actual Sales − BEP Sales (in units)
MOS (₹) = Actual Sales Revenue − BEP Sales Revenue
MOS % = (Actual Sales − BEP Sales) ÷ Actual Sales × 100

Profit = MOS × P/V Ratio
```

Lekha-Jokha meaning: The MOS tells how much Jokha revenue can fall before all contribution is consumed by fixed Lekha. Below BEP, each unit sold reduces the Lekha deficit by its contribution — but the fixed Lekha exceeds total contribution.

10.6 Target Profit

```
Units to achieve target profit = (Fixed Costs + Target Profit) ÷ Contribution
per unit
Sales to achieve target profit = (Fixed Costs + Target Profit) ÷ P/V Ratio
```

10.7 Multi-Product CVP

When multiple products are sold in a fixed mix, a **weighted average contribution** is used:

```
Weighted Average Contribution per unit = Sum of (Contribution per unit × Sales
mix proportion)

Composite BEP (total units) = Fixed Costs ÷ Weighted Average Contribution
Units of each product at BEP = Composite BEP × Sales mix proportion
```

Alternatively — using sales mix in value:

```
Overall P/V Ratio = Total Contribution ÷ Total Sales Revenue (at the given mix)
```

```
BEP in total sales ₹ = Fixed Costs ÷ Overall P/V Ratio
```

10.8 Break-Even Chart and Profit-Volume Chart

Break-Even Chart:

- X-axis: Volume (units or sales ₹)
- Y-axis: Cost and Revenue (₹)
- Fixed cost line: Horizontal (Lekha floor)
- Total cost line: Starts from fixed cost line; slopes upward (adding variable Lekha)
- Revenue line: Starts from origin; slopes upward (Jokha increasing)
- Break-even point: Intersection of revenue and total cost lines

Profit-Volume (PV) Chart:

- X-axis: Sales volume
- Y-axis: Profit or Loss (₹)
- Line starts from (0, −Fixed Cost) — before any Jokha revenue, the full fixed Lekha is a loss
- Crosses X-axis at BEP
- Slope = P/V Ratio

Angle of Incidence: The angle between the revenue line and total cost line at the BEP. A large angle indicates rapid profit growth after BEP — high P/V ratio and large MOS potential. A small angle indicates slow profit build-up after BEP.

10.9 Decision-Making Applications of Marginal Costing

Key Factors (Limiting Factors / Bottleneck Resources):

When a scarce Lekha resource (machine hours, raw material, labour hours) constrains output, products should be ranked by **contribution per unit of the scarce resource**:

```
Contribution per unit of scarce resource = Contribution per unit ÷ Units of scarce resource per unit of product
```

Produce in order of highest contribution per scarce unit first.

Worked Example: Two products, A and B. Machine hours are scarce (available: 10,000 hours).

	Product A	Product B
Selling Price	₹200	₹150
Variable Cost	₹120	₹80

Contribution	₹80	₹70
Machine Hours per unit	4	2
Contribution per machine hour	₹20	₹35
Rank	**2nd**	**1st**

Produce maximum demand of B first; use remaining hours for A.

Make or Buy Decision:

```
Buy if: External purchase price < Marginal cost of making
        (i.e., Jokha purchase cost < Lekha input to make)

But consider: If making uses scarce resources, also add the opportunity cost of
those resources (contribution foregone from alternative use).

Relevant Lekha of making = Variable cost of making + Opportunity cost of
resources used
```

Accept/Reject Special Order:

Accept a special order at a price below normal selling price if:

```
Special Order Price > Marginal Cost per unit (Lekha input for the order)
AND surplus capacity exists (so no opportunity cost is incurred)
```

The special order contributes positively to fixed Lekha coverage — even at a lower Jokha price.

Shut Down or Continue:

```
Continue if: Contribution from the segment > Avoidable Fixed Costs of the
segment
Shut down if: Avoidable Fixed Costs > Contribution
```

Note: Only **avoidable** fixed costs are relevant. Fixed costs that continue regardless (committed Lekha) are irrelevant to the shut-down decision.

10.10 Comprehensive Worked Example — Full CVP

Facts: Zenith Ltd. makes two products.

	Product P	**Product Q**
Selling price	₹300	₹250
Direct Material	₹80	₹60

Direct Material	₹80	₹60
Direct Labour (₹40/hr)	₹40	₹80
Variable OH (₹20/DLH)	₹20	₹40
Marginal Cost	₹140	₹180
Contribution	₹160	₹70
Sales mix (units)	3	2

Fixed Costs: ₹6,30,000 p.a.
Maximum demand: P = 4,000 units; Q = 3,000 units.
Available direct labour hours: 12,000.

Step 1 — Limiting Factor: DLH per unit: P = 1 hr; Q = 2 hrs. Total DLH required at max demand: (4,000 × 1) + (3,000 × 2) = 10,000 hrs < 12,000 available. *No limiting factor — both products can be made to max demand.*

Step 2 — BEP at sales mix 3:2: Weighted average contribution: = (3 × ₹160 + 2 × ₹70) ÷ 5 = (480 + 140) ÷ 5 = ₹124 per unit

Composite BEP = ₹6,30,000 ÷ ₹124 = 5,081 units total (at 3:2)
= P: 5,081 × 3/5 = 3,049 units; Q: 5,081 × 2/5 = 2,032 units

Step 3 — Profit at max demand: Total contribution = (4,000 × ₹160) + (3,000 × ₹70) = 6,40,000 + 2,10,000 = 8,50,000 Profit = 8,50,000 − 6,30,000 = **₹2,20,000**

Step 4 — P/V Ratio: Total Sales Revenue = (4,000 × ₹300) + (3,000 × ₹250) = 12,00,000 + 7,50,000 = 19,50,000 P/V Ratio = 8,50,000 ÷ 19,50,000 = **43.6%**

Step 5 — MOS: BEP Revenue = FC ÷ P/V Ratio = 6,30,000 ÷ 0.436 = ₹14,45,000 MOS = ₹19,50,000 − ₹14,45,000 = **₹5,05,000 (25.9%)**

10.11 Practice Questions

Q1. A company's fixed costs are ₹5,40,000. Variable cost per unit ₹60. Selling price ₹90. Calculate: (a) BEP (units), (b) BEP (₹), (c) P/V ratio, (d) Sales to earn profit of ₹1,35,000, (e) MOS if current sales are 28,000 units.

Q2. Products X, Y, Z have contributions of ₹30, ₹25, ₹20 per unit and require 3, 2, 2 machine hours respectively. Machine capacity: 9,000 hours. Maximum demand: X = 1,500; Y = 2,000; Z = 1,500. Fixed costs: ₹60,000. Determine optimum production plan and maximum profit.

Q3. A division shows: Sales ₹20,00,000; Variable costs ₹14,00,000; Directly attributable fixed costs ₹4,00,000; Apportioned Head Office costs ₹3,00,000. Should the division be shut down? What additional information would you need?

Chapter 11: Budget and Budgetary Control

11.1 Budget and Budgetary Control — Definitions

Budget: A quantified, formal plan expressing Lekha inputs (costs) and Jokha outputs (revenue, production, sales) for a future period — prepared before the period begins.

Budgetary Control: The system by which actual Lekha-Jokha performance is compared to the budget, variances are identified, and corrective action is taken. It closes the loop between planning and control.

Budget Period: The period for which a budget is prepared — typically one year, sub-divided into monthly or quarterly control periods.

11.2 Objectives of Budgetary Control

1. **Planning** — Forces management to plan Lekha deployment and Jokha targets in advance.
2. **Co-ordination** — Aligns plans of different departments (sales determines production; production determines material and labour).
3. **Communication** — Communicates management's Lekha-Jokha targets to all levels.
4. **Control** — Variance between budget and actual highlights where Lekha is being over-deployed or Jokha under-recovered.
5. **Motivation** — Participative budgets motivate departmental managers to own their Lekha targets.
6. **Performance evaluation** — Budget is the benchmark against which actual performance is judged.

11.3 Types of Budgets

By Function:

Budget	Controls
Sales Budget	Jokha revenue target by product, region, period
Production Budget	Output required (units)
Direct Materials Budget	Lekha material to purchase and consume
Direct Labour Budget	Lekha labour hours and cost
Overhead Budget	Lekha factory, admin, selling overheads
Capital Expenditure Budget	Lekha investment in long-term assets
Cash Budget	Lekha and Jokha cash flows
Master Budget	Aggregated P&L, Balance Sheet, Cash Flow

By Nature:

Type	Meaning
Fixed Budget	Based on a single level of activity; does not flex with actual volume
Flexible Budget	Prepared for a range of activity levels; separates fixed and variable Lekha

11.4 The Principal Budget Factor (Limiting Factor)

The **principal budget factor** (key factor / budget constraint) is the factor that limits the organisation's Jokha output. It must be identified first, because all other budgets are built around it.

Common principal budget factors:

- Sales demand (most common — Jokha constraint)
- Production capacity (Lekha constraint)
- Raw material availability
- Labour availability
- Machine capacity

Budget preparation sequence (when sales is the principal budget factor):

```
1. Sales Budget (Jokha target)
2. Production Budget (derived from sales + stock policy)
3. Materials Budget (derived from production)
4. Labour Budget (derived from production)
5. Overhead Budgets
6. Capital Expenditure Budget
7. Cash Budget
8. Master Budget (Budgeted P&L + Balance Sheet)
```

11.5 Production Budget

```
Budgeted Production (units) = Budgeted Sales + Closing Stock of Finished Goods
- Opening Stock of Finished Goods
```

11.6 Direct Materials Budget

```
Material Required for Production = Budgeted Production × Material per unit

Purchases Budget:
Purchases = Material Required + Closing Stock of Material − Opening Stock of
Material
```

11.7 Cash Budget

The cash budget translates all Lekha and Jokha plans into actual cash flows. It is the most immediate control tool — a company can be profitable but illiquid.

Format:

```
CASH BUDGET — Month: ___

Receipts (Jokha cash inflows):
Opening Balance                    X
Collections from Debtors           X
Cash Sales                         X
Loan receipts                      X
Asset disposal proceeds            X
Total Receipts (A)                 X

Payments (Lekha cash outflows):
Payments to Creditors              X
Wages paid                         X
Overhead payments                  X
Capital expenditure                X
Tax / dividend payments            X

Loan repayments                    X
Total Payments (B)                 X

Closing Balance = A − B            X
```

Lag adjustments:

- Debtors collection: If 60% collected in month of sale, 40% next month → apply lag
- Creditor payments: If paid 30 days after purchase → one month lag

11.8 Flexible Budget

A flexible budget is re-stated at the **actual level of activity** to provide a valid comparison basis for variance analysis. Fixed Lekha costs remain unchanged; variable Lekha costs are scaled proportionately.

```
Flexed Budget Cost = Fixed Cost (unchanged) + (Variable Cost per unit × Actual Output)
```

Why flexible budgeting is superior to fixed for control:

A fixed budget comparison at a different activity level produces meaningless variances — higher output always means higher variable Lekha costs. Flexing the budget isolates the

Lekha variance that is truly due to *efficiency* (paying more or less per unit of input) rather than *volume* (producing more or less).

Worked Example: Budgeted output: 5,000 units. Actual output: 6,200 units.

Cost	Fixed Budget (5,000)	Flexed Budget (6,200)	Actual (6,200)	Variance
Direct Material (₹20/unit variable)	1,00,000	1,24,000	1,30,000	6,000 A
Direct Labour (₹15/unit variable)	75,000	93,000	88,000	5,000 F
Variable OH (₹10/unit)	50,000	62,000	65,000	3,000 A
Fixed OH	80,000	80,000	82,000	2,000 A
Total	3,05,000	3,59,000	3,65,000	6,000 A

Without flexing: Total variance = ₹3,65,000 − ₹3,05,000 = ₹60,000 A (misleading — most is volume).
After flexing: True efficiency variance = ₹6,000 A (genuine Lekha overspend).

11.9 Zero-Based Budgeting (ZBB)

Traditional budgeting: Starts from last year's budget and adjusts (incremental budgeting). Old Lekha commitments are automatically rolled forward — inefficiency is perpetuated.

Zero-Based Budgeting: Every Lekha deployment must be **justified from scratch** each period as if starting from zero. No automatic continuation of prior activities.

ZBB Process:

1. Identify **decision packages** — discrete activities or programmes
2. Each decision package describes: the activity, its objectives, consequences of not funding it, alternative ways of performing it, cost and benefit at different levels
3. Rank all decision packages by cost-benefit
4. Allocate Lekha budget to highest-ranked packages until budget is exhausted

Advantages:

- Eliminates inefficient Lekha spend
- Forces fresh thinking about activities
- Aligns spending with current priorities

Disadvantages:

- Time-consuming; expensive to implement annually

- Requires significant management effort
- May create political resistance (departments fear losing budgets)
- Difficult to rank non-quantifiable activities

11.10 Performance Budgeting

Focuses on **output** (Jokha delivered) rather than input (Lekha spent). Links spending to results — what is the Lekha cost per unit of Jokha output (service, product, outcome)?

Used extensively in government and public sector to demonstrate value for money.

```
Performance Indicator = Lekha Cost ÷ Jokha Output Unit
```

11.11 Comprehensive Worked Example — Master Budget

Facts: Delta Ltd. — Quarterly Budget, April–June 2025.

Sales Budget:

- Q1 (April): 2,000 units @ ₹500 = ₹10,00,000
- Q2 (May): 2,500 units @ ₹500 = ₹12,50,000
- Q3 (June): 3,000 units @ ₹500 = ₹15,00,000

Closing Stock Policy: 10% of next month's sales. Opening stock: 180 units.

Production Budget (units):

	April	**May**	**June**
Sales	2,000	2,500	3,000
+ Closing Stock	250	300	320*
− Opening Stock	(180)	(250)	(300)
Production	**2,070**	**2,550**	**3,020**

*July forecast 3,200 units; closing stock = 10% = 320 units.

Materials Budget: Material per unit: 2 kg @ ₹30/kg. Closing stock policy: 15% of next month's production requirements. Opening stock: 600 kg.

Production requirements (kg): April: 4,140; May: 5,100; June: 6,040.

	April	**May**	**June**
Required for production	4,140	5,100	6,040
+ Closing stock	765	906	945*

– Opening stock	(600)	(765)	(906)
Purchases	**4,305**	**5,241**	**6,079**
Purchase cost	**₹1,29,150**	**₹1,57,230**	**₹1,82,370**

*July production: ~6,300 kg req. → closing = 15% × 6,300 = 945 kg.

Labour Budget: Direct labour: 0.5 hours per unit @ ₹60/hr.

	April	May	June
Units produced	2,070	2,550	3,020
Hours required	1,035	1,275	1,510
Labour cost	₹62,100	₹76,500	₹90,600

Overhead Budget: Fixed OH: ₹1,00,000/month. Variable OH: ₹20 per unit produced.

	April	May	June
Fixed OH	1,00,000	1,00,000	1,00,000
Variable OH	41,400	51,000	60,400
Total	1,41,400	1,51,000	1,60,400

Budgeted P&L (Marginal Costing):

Marginal cost per unit:

```
Material: 2 kg × ₹30 = ₹60
Labour: 0.5 hr × ₹60 = ₹30
Variable OH: ₹20
Total Variable Cost = ₹110 per unit
Contribution = ₹500 – ₹110 = ₹390 per unit
```

	April	May	June	Total
Sales	10,00,000	12,50,000	15,00,000	37,50,000
Variable Cost	2,20,000	2,75,000	3,30,000	8,25,000
Contribution	7,80,000	9,75,000	11,70,000	29,25,000
Fixed OH	1,00,000	1,00,000	1,00,000	3,00,000

Profit	**6,80,000**	**8,75,000**	**10,70,000**	**26,25,000**

Cash Budget: Assumptions: Debtors pay 50% in month of sale, 50% next month. Creditors paid with 1 month lag. Labour and OH paid in current month. Opening cash: ₹2,00,000.

	April	**May**	**June**
Receipts:			
Cash from debtors	5,00,000+0* = 5,00,000	5,00,000+6,25,000 = 11,25,000	6,25,000+7,50,000 = 13,75,000
Payments:			
Creditors (prior month)	Assume March purch. paid	1,29,150	1,57,230
Labour	62,100	76,500	90,600
Overheads	1,41,400	1,51,000	1,60,400
Net Cash Flow	Compute	Compute	Compute

(Opening debtor balance assumed nil for simplicity.)

11.12 Variance Analysis Overview

Variance = Difference between Budget (Standard) and Actual Lekha or Jokha.

- **Adverse (A):** Actual Lekha > Budget (over-spent) OR Actual Jokha < Budget (under-earned)
- **Favourable (F):** Actual Lekha < Budget (under-spent) OR Actual Jokha > Budget (over-earned)

Key Material Variances:

```
Material Cost Variance = Standard Cost of Actual Output − Actual Cost
                       = (SQ × SP) − (AQ × AP)

Material Price Variance = AQ × (SP − AP)

Material Usage Variance = SP × (SQ − AQ)

Material Mix Variance = SP × (Revised Std Qty − Actual Qty) [where different materials used]
Material Yield Variance = Std Cost × (Actual Yield − Standard Yield)
```

Key Labour Variances:

```
Labour Cost Variance = (SH × SR) − (AH × AR)

Labour Rate Variance = AH × (SR − AR)

Labour Efficiency Variance = SR × (SH − AH)

Labour Idle Time Variance = SR × Idle Hours (always Adverse)
```

Overhead Variances (Absorption Costing):

```
Fixed OH Variance = Absorbed OH − Actual OH

Fixed OH Expenditure Variance = Budgeted OH − Actual OH

Fixed OH Volume Variance = Absorbed OH − Budgeted OH
  → Fixed OH Efficiency Variance = SR × (Std Hours − Actual Hours)
  → Fixed OH Capacity Variance = SR × (Actual Hours − Budgeted Hours)
```

(Full standard costing detail is in Chapter 12.)

11.13 Practice Questions

Q1. Prepare a flexible budget for output levels of 8,000, 10,000, and 12,000 units from the following data at 10,000 units: Direct materials ₹2,00,000; Direct labour ₹1,50,000; Variable OH ₹1,00,000; Fixed OH ₹2,50,000; Semi-variable OH (₹80,000 fixed + ₹5/unit variable). If actual output is 11,000 units with actual total cost of ₹7,20,000, compute the cost variance.

Q2. A company budgets to sell 12,000 units at ₹40 each. Variable cost ₹24/unit. Fixed costs ₹1,00,000. (a) Calculate BEP, P/V ratio, MOS. (b) If a 10% price reduction is expected to increase sales by 25%, should the company reduce the price? Show impact on profit.

Q3. Prepare a cash budget for January, February, March from the following:

- Sales (Jokha): Jan ₹8,00,000; Feb ₹10,00,000; Mar ₹12,00,000. Collected: 40% in month of sale; 60% next month.
- Purchases (Lekha): Dec ₹4,00,000; Jan ₹5,00,000; Feb ₹6,00,000. Paid: one month after purchase.
- Wages: ₹1,50,000/month (paid in the month).
- Fixed OH: ₹80,000/month (paid in the month, includes ₹10,000 depreciation).
- Opening cash balance: ₹1,20,000. Minimum desired cash: ₹1,00,000. Determine if short-term borrowing is required in any month.

Q4. "Zero-based budgeting is conceptually sound but practically challenging." Discuss with reference to the Lekha-Jokha tension between committing resources and justifying them.

Chapter 12: Standard Costing (Reference Chapter)

12.1 Standard Cost

A **standard cost** is a pre-determined, budgeted Lekha cost for a unit of output — set for materials, labour, and overheads using engineered studies, historical data, or management judgment.

Types of Standards:

Type	Description	Effect on Variance
Ideal	Perfect conditions; no waste, idle time	Always adverse in practice — demotivating
Current	Attainable under current conditions	Realistic; most widely used
Basic	Fixed baseline; rarely revised	Growing variances over time
Normal	Average of expected good and bad periods	Smoothed standard

12.2 Standard Cost Card

```
STANDARD COST CARD — Product X

Direct Materials:  2 kg × ₹30/kg                    60.00
Direct Labour:     3 hours × ₹25/hr                 75.00
Variable OH:       3 hours × ₹10/hr                 30.00
Fixed OH:          3 hours × ₹20/hr                 60.00
──────────────────────────────────────────────────────────
STANDARD COST:                                      225.00
Standard Selling Price:                             300.00
Standard Profit:                                     75.00
```

12.3 Complete Variance Framework

```
SALES VARIANCES
Sales Price Variance = AQ × (AP − SP)
Sales Volume Variance = SP × (AQ − BQ) — or using Contribution for Marginal
Costing

MATERIAL VARIANCES
MCV = (SQ × SP) − (AQ × AP)
MPV = AQ × (SP − AP)
MUV = SP × (SQ for actual output − AQ)
MMV = SP × (Revised Standard Qty − AQ) [multi-material]
MYV = Std cost per unit × (Actual Yield − Standard Yield)
```

```
LABOUR VARIANCES
LCV = (SH × SR) − (AH × AR)
LRV = AH × (SR − AR)
LEV = SR × (SH for actual output − AH paid)
LITV = SR × Idle Hours

OVERHEAD VARIANCES (Fixed)
FOH Total Variance = OH Absorbed − OH Actual
FOH Expenditure = OH Budgeted − OH Actual
FOH Volume = OH Absorbed − OH Budgeted

  FOH Efficiency = Std rate × (SH − AH worked)
  FOH Capacity = Std rate × (AH worked − Budgeted H)
  FOH Calendar = Std rate × (Budgeted H − Revised Budgeted H*)

OVERHEAD VARIANCES (Variable)
VOH Total = OH Absorbed − OH Actual
VOH Expenditure = (AH × Std rate) − Actual OH
VOH Efficiency = Std rate × (SH − AH)
```

12.4 Reconciliation Statement

```
Standard Cost of Actual Production (or Standard Profit on Actual Sales)
Add/Less: Variances (F positive, A negative)
= Actual Cost (or Actual Profit)
```

PART IV — MANAGEMENT ACCOUNTING AND DECISION MAKING

Chapter 13: Decision Making under Marginal Costing

13.1 Nature of Management Accounting Decisions

Management accounting differs from cost accounting in orientation — it is **future-focused** and **decision-specific**. Every management decision involves choosing between Lekha deployment options to maximise Jokha (value, profit, survival).

The **relevant cost principle** is paramount:

> **Only future, incremental, avoidable Lekha costs are relevant to a decision.** Sunk costs (past Lekha already incurred) and unavoidable Lekha are irrelevant.

13.2 Relevant Costs Framework

Cost Type	Relevant?	Reason

Cost Type	Relevant?	Reason
Sunk cost	No	Past; cannot be changed
Committed cost	No	Will be incurred regardless
Incremental cost	Yes	Changes with the decision
Opportunity cost	Yes	Jokha forgone by choosing this path
Avoidable cost	Yes	Ceases if activity stops
Notional cost	Context-dependent	Relevant in opportunity cost analysis

13.3 Pricing Decisions

Cost-Plus Pricing:

```
Selling Price = Total Cost + Markup %
              = Lekha Total + Required Jokha margin
```

Marginal Cost Pricing (minimum price):

```
Minimum Price = Marginal Cost (Variable Lekha per unit)
```

Any Jokha above marginal cost contributes to covering fixed Lekha. Used for:

- Idle capacity situations
- Export pricing
- One-time orders
- Competitive bidding

Target Costing: Start from the Jokha side:

```
Market Price (Jokha) − Required Profit Margin = Target Cost (Maximum allowable Lekha)
```

If current Lekha > Target Cost → value engineering required to reduce Lekha inputs.

Transfer Pricing: Where one division supplies another within a group:

- Minimum transfer price (from supplying division): Marginal Cost + Opportunity Cost
- Maximum transfer price (from receiving division): External market price or Marginal Savings

13.4 Capital Expenditure Decisions (Introduction)

Capital budgeting involves long-term Lekha deployment in fixed assets. Full coverage is in Paper 2 (FM), but the Lekha-Jokha framework applies:

```
Net Present Value = Present Value of Jokha Cash Inflows − Lekha Initial Investment

Accept if NPV > 0 (Jokha returns exceed Lekha cost of capital)
```

Chapter 14: Divisional Performance Measurement

14.1 Responsibility Centres

Centre	Controlled	Lekha-Jokha Scope
Cost Centre	Costs only	Lekha inputs only
Revenue Centre	Revenue only	Jokha outputs only
Profit Centre	Costs and Revenue	Both Lekha and Jokha
Investment Centre	Costs, Revenue, and Assets	Lekha, Jokha, and Asset base

14.2 Performance Measures

Return on Investment (ROI):

```
ROI = Divisional Profit ÷ Divisional Net Assets × 100
    = Jokha Return ÷ Lekha Asset Base × 100
```

Residual Income (RI):

```
RI = Divisional Profit − (Cost of Capital % × Net Assets)
   = Jokha Return − Cost of holding Lekha assets
```

RI is superior to ROI because it avoids the perverse incentive to reject investments that earn above the cost of capital but below the division's current ROI.

APPENDICES — VOLUME II

Appendix A: Quick Reference — Cost Formulas

```
EOQ = √(2DS/H)  where D = demand, S = ordering cost, H = holding cost per unit
EBQ = √(2DS/H × R/(R−D))  where R = production rate, D = demand rate

BEP (units) = FC ÷ C (where C = contribution per unit)
BEP (₹) = FC ÷ PV ratio
Target Sales = (FC + Target Profit) ÷ PV ratio
MOS = Actual Sales − BEP Sales
Profit = MOS × PV ratio

Halsey Premium = Basic Pay + 50% × (Time Saved × Rate)
Rowan Premium = Basic Pay + (Time Saved/Time Allowed) × Time Taken × Rate

Stage of Completion (AS7) = Costs to date ÷ Total Estimated Cost
Revenue = Contract Price × Stage − Prior Revenue
```

Appendix B: Cost Accounting vs. Management Accounting

Aspect	Cost Accounting	Management Accounting
Focus	Ascertaining Lekha per unit	Supporting decisions — optimising Lekha/Jokha relationship
Time	Historical + standard	Future-oriented
Scope	Production costs	All business aspects
Output	Cost statements, cost sheets	Reports, projections, analyses
Legal requirement	Not mandatory	Not mandatory
AS/Legal basis	Cost Accounting Standards (ICAI)	No prescribed format

Appendix C: Examination Focus Areas — Paper 3

Topic	Typical Marks	Most Tested
Cost Sheet	8–10	Component classification; reconciliation with FA
Material: EOQ, Reorder levels	6–8	EOQ formula; reorder/safety stock
Labour: Incentive schemes	4–6	Halsey, Rowan, differential piece rate
Overhead: OAR, under/over-	8–10	Simultaneous equations; machine hour rate

absorption		
Job and Batch Costing	6–8	Job cost card; EBQ
Contract Costing	10–14	AS 7; foreseeable loss; retention money
Process Costing	12–16	Normal/abnormal loss; equivalent units; joint products
Service Costing	6–10	Transport; hospital; composite cost unit
Marginal Costing + CVP	12–16	BEP; MOS; limiting factor; make-buy
Budgetary Control	10–14	Cash budget; flexible budget; ZBB
Standard Costing	8–10	Variance calculation; reconciliation

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